

## POGIL Activity

### Understanding and Using Numbers- Don't Miss Mars!

#### Introduction

In 1999, a NASA Mars spacecraft had nearly finished a 10-month journey to enter into Mars orbit when a navigation mistake made the aircraft move dangerously close to Mars's atmosphere where it likely burned up or broke into pieces. The mission was one day short of celebrating entrance entry into Mars's orbit. Instead, NASA lost the Mars orbiter which cost \$125 million! The cause of this mishap was one engineering team used metric units while another used English units for a key spacecraft operation. Moral of the story is that you've got to KNOW YOUR UNITS!

#### Model 1- Units

| Quantity            | Unit                       | Abbreviation    |
|---------------------|----------------------------|-----------------|
| Mass                | kilogram                   | kg              |
| Length              | meter                      | m               |
| Time                | second                     | s               |
| Temperature         | Kelvin                     | K               |
| Amount of substance | mole                       | mol             |
| Electric Current    | ampere                     | A               |
| Volume              | liters                     | L               |
| Density             | grams per centimeter cubed | $\text{g/cm}^3$ |

1. What is the unit for mass? What is its abbreviation?